SUBMISSION TO THE 5 YEAR REVIEW OF THE HEALTH STAR RATING SYSTEM

The George Institute for Global Health

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Contents

The George Institute for Global Health

The George Institute for Global Health's mission is to improve the health of millions of people worldwide.

The George Institute's Food Policy Division works in Australia and internationally to reduce rates of death and disease caused by diets high in salt, harmful fats, sugar and excess energy, by undertaking research and advocating for a healthier food environment.

The Food Policy Division's main areas of activity are monitoring changes in the food supply including through reformulation, and developing and testing innovative approaches to encourage consumers towards better food choices.

The George Institute has been designated a World Health Organization Collaborating Centre on Population Salt Reduction, with remit to support countries to achieve global targets for reducing salt by 30% by 2025.

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Preamble

The George Institute's Food Policy Division has been a supporter of the Health Star Rating system (HSR) since its inception, and remains keen to see the system achieve its full potential as a critical component of Australia's response to diet-related disease.

Our research suggests HSR is performing well overall, while also highlighting areas where the system could be strengthened to retain consumer trust and promote achievement of its primary public health goals.

The George Institute is systematically monitoring the performance of the HSR algorithm and uptake of the HSR label via its FoodSwitch database and app. A full list of George Institute publications utilising the HSR nutrient profile model is included at Appendix A to this submission.

We welcome the opportunity to provide input to the five year review. Recommendations made throughout this submission are based on our experience with HSR in Australia, though are likely to be similarly applicable to the system's operation in New Zealand.

Responses to Specific Review Questions
HSR system

1. Are there any significant barriers or limitations to including the HSR system on packaged foods? If yes, please describe and provide examples.

The most obvious limitation to including HSR on pack is that the scheme is currently voluntary.

As reported in the 2 year progress review, industry may be motivated to implement a voluntary label where they see a benefit to their products, brand and company, and perceived alignment with organizational values [1]. Where these factors are not present, the cost of changing a label confers little 'first-mover' advantage.

Barriers identified by those *not* yet implementing HSR provide insight into appropriate responses:

-   Perceived lack of clarity in HSR Guidance Materials suggests a need for HSRAC to provide clarity as soon as possible (e.g. on rules for 'as prepared');

-   Where packaging and labelling costs are identified, manufacturers should be encouraged to combine mandatory Country of Origin Labelling changes (required by June 2018) with uptake of HSR to improve the business case for a label change;

-   Reluctance to display HSR due to a perceived lack of consumer trust could be allayed by improved government-led consumer education and awareness campaigns to improve consumer demand; and

-   For those companies who consider HSR irrelevant and at odds with their organizational values, the only way to ensure uptake may be to make the scheme mandatory.

2. Thinking about making comparisons between products in the supermarket, how appropriately are consumers using the HSR system? Please provide comments.

We are encouraged that consumer awareness of HSR is growing, but note that unprompted awareness still appears low (reported as between 13-26% in Australia; 9% in NZ in mid-2016[1]) for a major public health initiative that has now been in place for three years.

Among those who are aware of the system (prompted and unprompted 59-67% in Australia; 61% in NZ), Australian Pollinate research findings are promising: around one third self-report buying a new product because of its higher HSR, and of those, most report continuing to purchase the product [1]. This suggests improved awareness could increase positive behaviour change.

The two year review report also suggests that most people (72% of Australians and 67% of New Zealanders[1]) find HSR easy to understand and use. Pollinate research, as well as that done by CHOICE suggest most Australians want HSR on more (or all) products.

These findings are supported by a suite of work by Talati and Pettigrew et al [2-7] evaluating the efficacy of various front-of-pack labelling systems, demonstrating that:

- Both adults and children prefer interpretive front-of-pack nutrition labelling to schemes that merely repeat information contained in the Nutrition Information Panel (NIP);

- Specifically, both adults and children prefer HSR to the Multiple Traffic Lights (MTL) and Daily Intake Guide (DIG). These results are consistent across socioeconomic and body weight subgroupings, indicating HSR is an appropriate food labelling system at the population level;

- Adults have a higher level of trust in HSR compared to the (industry preferred) DIG. This is partly due to its use of a standardised 'per/100g' unit of assessment, which is perceived as less open to manipulation;

- Both adults and children are better able to accurately assess the relative healthiness, within product category, for products of varying healthiness when the products bear a HSR compared to MTL or DIG;

- Both adults and children are better able to accurately assess the relative healthiness, within-category, of products varying in healthiness when a HSR is applied compared to no FoPL;

- When the DIG is applied to products of varying healthiness, adults and children perceive all products to be of a similar, moderate level of healthiness and are just as likely to select an unhealthy product as a healthy one in a choice experiment. Not only do consumers have difficulty distinguishing between healthy and unhealthy when the DIG is present, but this suggests including it on packs may make unhealthy products seem healthier than they are;

- HSR assists adults and children to identify discrepancies between information contained in health claims and actual product healthiness. HSR therefore reduces the positivity bias that can results from the use of health claims by manufacturers.

Taken together, these findings suggest HSR is an appropriate labelling system at a population level, and also that it is superior to both the MTL and industry-preferred DIG that it replaces.

The George Institute for Global Health has also been involved in randomised controlled trials utilising smart-phone apps to evaluate the effects of interpretive labels, including HSR, on consumer food purchases in both Australia and New Zealand [8, 9]. At the relatively low levels of use observed in the trials, the HSR and MTL labels had no significant effect on food purchases, though in the Australian study a combined warning/endorsement label did [8]. Importantly, HSR was perceived as significantly more useful by consumers than other conditions, and easier to understand than the DIG, MTL and the NIP [8,

9]. Compared with frequent NIP users, frequent MTL and HSR users had significantly healthier purchases [9]. Both studies support the choice of HSR as a preferred labelling format.

Notwithstanding the growing body of support, existing research on consumer use provides insight into areas where HSR could be strengthened:

- As noted above, overall awareness of HSR could still be greatly improved.

- Only one in four Australians report seeing the HSR campaign, with lower results in regional areas and among those classified as obese. These groups are some of those most at risk from poor nutrition and associated health risks [10].

- Even after being shown materials, at least a quarter of people cannot correctly identify who is behind the campaign, and belief and trust in the system could still be greatly improved (52% and 44% reported, respectively)[10]. Future communications should reinforce that HSR is government-led.

- There also appears some confusion around the campaign message, with 41% of the Pollinate sample agreeing it communicates 'you should only buy food with a Health Star Rating'; 25% agreeing you should 'buy packaged instead of unpackaged foods' and 23% agreeing you should 'buy more packaged foods'[10]. These latter results in particular are concerning for their inconsistency with the objectives of FoPL within broader strategies to promote healthier diets. Ongoing efforts must be made to ensure that consumers are aware that HSR does not imply that packaged foods are healthier than fresh foods, and further consideration given to extending HSR to appear on fresh foods (see further in Question 6).

- Confusion also continues over consumer understanding of whether HSR can be used *within* or *across* categories [10]. For example, can HSR be used to compare a yoghurt and a chocolate bar? A yoghurt and a dairy dessert? This suggests a need to explain appropriate use of HSR in its current form, or alternatively to further explore the ability of the HSR algorithm to be improved to perform better across the supermarket, given this apparent intuitive appeal.

3. Has stakeholder engagement to date been effective in providing information about the system and addressing stakeholder implementation issues? Please describe how, including examples where appropriate.

We appreciate the number of workshops held in Australia and New Zealand at the introduction of the system, and more recently to update stakeholders and collect feedback on concerns.

We note that in an Australia, the majority of workshops have been for a general audience, while 18 of the 27 workshops in New Zealand appear to have been to specific public health or community groups. This targeted approach to public health and consumer stakeholders may present a positive opportunity to create natural 'champions' for the system that could be further explored in Australia.

We are encouraged that feedback from workshops has been systematically collated and made publicly available through the HSR website.

It will now be important for all stakeholders to feel that this feedback has been valued by ensuring changes are implemented at the earliest available opportunity, and communicated to all stakeholders in an effective way.

While not all matters can be resolved immediately, some – e.g. the 'as prepared' issue – have been the subject of public critique since the system launch. Left unresolved, they continue to jeopardise the integrity and sustainability of the system overall. We have previously provided detailed analysis and suggestions for how this matter could be quickly and simply fixed (see The George Institute submission to government consultation on 'As Prepared'). The 'As Prepared' issue provides an ideal opportunity for HSRAC to demonstrate leadership and responsiveness to stakeholder feedback by both addressing and *resolving* the matter as soon as possible.

4. How effective has the implementation of the HSR system to date been in meeting the overarching objective of the HSR system?

The specific objectives of HSR are expressed in overlapping terms in a number of policy documents.

For the purpose of this consultation, we provide our response under three key themes below.

(a) Guide consumers towards healthier choices

As noted above in response to question 2, there is significant research to suggest that consumers like HSR and find it more useful to than the NIP or the industry-led DIG [5, 8]. Despite some issue about whether HSR is to be used *within* or *across* category [10], evidence suggests they are generally able to use it to make direct comparisons between individual foods [1, 7]. Results appear to be consistent for both adults and children, and across socio-economic and linguistically diverse groups[5].

While two randomized controlled trials did not find a significant effect on purchasing, they did demonstrate a trend towards benefit and may have been limited by their use of an 'app' design. They also identified a clear preference for HSR above other labelling formats by consumers [8, 9]. Australian Pollinate research is also promising: where consumers are aware of the system, they report using it to purchase, and continue to purchase, a product with a higher health star rating (around 10% of the total sample)[10].

In its current form, the ability of HSR to guide consumers is necessarily limited by its voluntary nature. It is pleasing that the number of products displaying HSR is increasing, and significant that Coles and Woolworths have committed to apply to all private-label products, including those that receive low scores.

We are encouraged that HSRAC reports rapidly increasing uptake (7000 products by 140 companies in April 2017). However, when compared to the total number of eligible products captured in our FoodSwitch database, we believe this number is still a relatively small proportion of products on supermarket shelves. Preliminary visual inspections at large supermarkets in metropolitan areas of Sydney and Melbourne likely to have greatest visibility of HSR suggest that uptake is far less than the 50% reported by government.

Making HSR mandatory as soon as possible would increase both awareness of the system and its ability to guide consumer choice. Further detail of this proposal are outlined in Question 14 and 16 below.

(b) Be aligned with other food regulation, public health policies, and authoritative sources of dietary advice (e.g. the ADGs)

In order to achieve its public health and consumer choice objectives, it is essential HSR is aligned with existing evidence-based policies in both Australia and New Zealand.

Significant focus has been placed on whether HSR adequately aligns with the ADGs.

To this end, The George Institute's work with NSW Health analysed 11,500 foods across 30 categories and found:

- Approximately 82% of all products had a HSR that aligned with the range corresponding to its classification as a core or discretionary food by the ADGs.
- Around 79% of foods classified as core scored ≥3.5 HSR, while only 14% of discretionary foods scored ≥3.5.
- There was a significant difference in the mean HSR of core foods (mean = 3.7 stars) and discretionary foods (mean = 1.9 stars). More recent analysis of an even larger dataset (approx. 34,000 products) found similar results for the mean of core (4.0) and discretionary (2.0) foods [11]
- This alignment was generally better than the existing Traffic Light Scheme used in NSW school canteens and health facilities [12]

These results provide strong evidence that the HSR algorithm is broadly working as intended.

We are currently conducting further analysis of our data for products that appear to be 'outliers' (e.g. core products which score ≤1.5 HSR and discretionary products which score ≥3.5 HSR) to gain a systematic understanding of where potential problems and solutions may lie.

We also note that our results may differ from the perception given to consumers based on HSR labels currently displayed on shelves. In a voluntary system, it is not surprising that the most commonly displayed HSR in Year 1 and 2 monitoring was relatively high 4.0 [1], nor that many discretionary products displaying HSR to date are those able to achieve a relatively high score [13]. These create additional impetus to make the system mandatory.

(i) Alignment in the absence of a 'gold standard' in nutrition classification

We support exploration of ways in which HSR could better align with the ADGs as part of efforts to increase its public health impact.

At the same time, we recognise there are important theoretical and practical reasons why perfect alignment is unlikely to be attained.

Design and purpose of dietary guidelines

The ADGs provide broad evidence-based guidelines on the *amounts* and *kinds* of foods that Australians should eat to produce *healthy dietary patterns*.

Guideline 2 and 3 are the most relevant to HSR, and suggest Australians should:

2. Eat a wide variety of nutritious foods from the five food groups every day

3. Limit intake of foods containing saturated fat, added salt, added sugars and alcohol

The dichotomy of 'core' and 'discretionary' is unique to Australia and emerges from these two guidelines. While simple for some products (e.g. plain vegetables, grains, lean meats), the division becomes far more complex (and potentially less coherent) when considering foods made up of multiple ingredients or prepared in varying ways.

We understand considerable thought was given to alignment during HSR development, and that perfect alignment would have been impeded by the limited definition of 'discretionary' products included in the ADGs at the time of their publication in 2013 (a list of approximately 22 examples) [14].

It was only in 2014, subsequent to finalisation of the HSR algorithm, that a more detailed list of core/discretionary classifications was developed by the Australian Bureau of Statistics in order to analyse foods reported under the Australian National Nutrition and Physical Activity Survey [15]. The list illustrates the inherent difficulty of applying a binary categorisation across the entire food supply. In some categories it has been necessary to apply single-nutrient cut-offs: breakfast cereals, for example, are classified as discretionary when they exceed >30g sugar per 100 grams, or for cereals with added fruit; >35g sugar/100g. Pizza can be classified as core, provided it contains less than 5g saturated fat/100g.

Notwithstanding that this level of detail was not available at the time of HSR development, our recent analysis suggests a reasonably high (82%) alignment between HSR scores and ADG core and discretionary classifications [12].

Design and purpose of interpretive front-of-pack labelling schemes that use nutrient profiling

By its fundamental purpose and design, HSR is inherently different to the ADGs.

As an interpretive front-of-pack labelling system, HSR uses nutrient profiling as a tool to assess a food's overall nutrient content. Like the ADGs, it draws upon the best available evidence to assess select aspects of foods likely to contribute to diet-related disease. Unlike the ADGs, categorization is not done on binary classification of *types* of food, nor does HSR aim to provide guidance about the *amounts* we should eat. Instead, nutrients associated with health risk are objectively assessed by the algorithm to deliver a result on a ten point spectrum for a standardised amount of the product.

By their nature, nutrient profiles are a tool to quantify selected aspects of individual foods, not a complete source of dietary advice. Though sometimes criticised as 'reductionist' due to their necessary reliance on nutrient values, they ultimately combine and use this information to differentiate between foods and drinks that are more likely to be part of a healthy diet, from those that are less healthy. In this way they attempt to translate the ADGs into practice. Nutrient profile models have been developed and used by academics, governments, non-governmental organizations and the food industry

worldwide for over 20 years [16]. Models similar to the HSR algorithm underpin regulations restricting marketing of foods to children, taxes on unhealthy products and in many cases, front-of-pack labelling schemes. Nutrient profiling is recognised by WHO as a helpful method to use *in conjunction* with interventions aimed at improving the overall nutritional quality of diets [16].

Rather than undue focus on perfect alignment or determination of the superiority of either scheme, this nuanced understanding of the relative contribution (and inherent limitations) of both HSR and the ADGs underlines the need to strengthen awareness and uptake of both policies, and to implement further comprehensive measures to improve Australian diets.

(ii) Beyond the ADGs: Alignment with other policies and authoritative sources of dietary advice

While considerable focus has been given to alignment with the ADGs, we note that HSR must also be aligned with equivalent New Zealand Guidelines, existing Nutrient Reference Values (some of which are being updated), existing health claims legislation and the activities of the ongoing Healthy Food Partnership.

We have recently investigated the alignment between HSR and the Nutrient Profiling Scoring Criteria (NPSC) used for determining eligibility to carry health claims in Australia. WE found a HSR of 3.5 best divided products according to eligibility to carry a health claim as defined by NPSC. There were 46% of products receiving HSR≥3.5 and 42% of products eligible to carry a health claim in our sample of 14,635 products. Alignment was much better in some categories (i.e. bread) than others (i.e. beverages). While there is broad agreement, we also recognise the discrepancies permitted are likely to result in confusion for consumers. Like work to review alignment with the ADGs, we suggest alignment with the NPSC be revisited [17].

The FoPL Policy Statement reference to other 'authoritative sources of dietary advice' should also invoke updated guidance from WHO, including the increased mandate for *mandatory* FoPL in the updated Appendix III of 'Best Buy' policies in the Global Action Plan on NCDs [18], and the Implementation Plan of the WHO Commission on Ending Childhood Obesity in 2017 [19]. Renewed focus of WHO on added (of 'free') sugar intake in the 2015 Guidelines on Sugar Intake [20] create additional impetus for this to be included in review of the algorithm (see further at Question 6 below).

(c) Improving the food environment by providing incentive for positive reformulation

The value of a front-of-pack labelling scheme to incentivise improvements to the food supply is recognised in the original Australia and New Zealand Food Regulation Ministerial Council Front of Pack Labelling Policy Statement, endorsed in 2009 [21].

We believe reformulation should receive renewed focus as a core objective of HSR.

Evidence from compulsory trans-fat disclosure and high-salt warning labels in other jurisdictions illustrates the significant public health impact achievable where a food labelling requirement stimulates a positive food systems response [22]. Improvements to the food supply deliver benefits equitably by removing reliance on consistent and correct consumer use. This may benefit those least likely to read labels, who are also most likely to be at highest risk of diet-related disease.

There is already signs that HSR is stimulating some reformulation. The two year Australian review contains anecdotal evidence of favourable reformulation [1]. Data from New Zealand, (while on a small product sample), suggests favourable changes in energy, sodium and fibre contents compared with product composition prior to adoption of HSR. Reformulation of HSR labelled products was at a higher rate than that of non-HSR labelled products over the same time period [23].

Evidence from national salt reduction schemes elsewhere suggest even small changes can deliver benefits across population [24].

To ensure reformulation is of genuine public health benefit, it is important that the algorithm primarily focuses on reducing risk nutrients, and cannot be unduly manipulated by addition of substances that do not deliver genuine health benefit (e.g. inulin for fibre points, or superfluous protein). Incentive to reformulate may also be improved by including added sugars in the algorithm, as outlined further in Question 6.

HSR Calculator

5. Do you think the HSR currently scores foods appropriately? Please provide evidence to support your response.

As noted above, our analysis of the HSR algorithm applied to the food supply overall suggest the system is scoring the majority of products appropriately. It is likely that some adverse attention on HSR has been attracted by the system's voluntary nature. In its current state, the overall performance of the HSR calculator overall is masked by the results of those currently displaying the label, who may not representative of the food supply.

There are at least two reasons why high profile and significant negative attention attracted by potential 'outliers' or 'anomalies' warrants further attention:

- If guidance provided by HSR is incorrect but is followed by consumers, adverse public health outcomes could result; and
- Even if consumers do not follow the HSR guidance, inappropriate scores jeopardise the integrity and sustainability of the system overall.

Areas of concern have been extensively documented elsewhere, but broadly include:

- Products that appear to contain high levels of a single harmful nutrient that are scoring relatively well (e.g. breakfast cereals high in added sugars)

- Products that are obtaining the benefit of displaying HSR on basis of preparation with other healthy, whole foods (e.g. Milo, seasoning mixes)

- Products that may be manipulating their formulation to obtain maximum benefit from nutrients and ingredients that don't provide a health benefit (e.g. ultra-processed protein bars, cereals with laboratory-sourced ingredients added to boost protein or fibre levels, products replacing sugars with concentrated FVNL)

6. Can you suggest how the algorithm and/or the generation of a star rating might be improved? Please provide worked examples illustrating the effect or any modifications you propose.

We welcome the creation of a multi-stakeholder Technical Advisory Group (TAG) to review the HSR algorithm and suggest ways in which it could be improved.

Given the specialised technical nature of the algorithm and modelling process, it is critical that the review be conducted transparently. Modelling should be conducted on as many products in the food supply as possible, and all work must be verified by multiple sources, including by government experts.

All work and any changes agreed upon should be fundamentally driven by the need to improve HSR's performance as a public health intervention.

As noted above, The George Institute believes the algorithm is scoring foods appropriately in the majority of cases, but would prioritise review of the following areas to strengthen the HSR's public health impact:

- **(a) Include added sugars in the algorithm**

  We recently modelled this proposal using 34,000 products in The George Institute's FoodSwitch database[11]. We found that 70% of all products contained added sugars, and that this figure was even higher – 87% - for discretionary foods. Of all the nutrients used in the current HSR algorithm we found total sugars had the greatest capacity to discriminate between core and discretionary foods, but that added sugars would perform even better, increasing alignment of HSR with the ADGs.

Since the development of the algorithm, the WHO has issued revised recommendations on added (or 'free') sugars [20]. Data from the Australian Health Survey suggests most Australians are far exceeding these recommendations, making this issue ripe for review [20].

Significant consumer interest in reducing added sugars intake also opens a potential marketing opportunity for those companies conducting positive reformulating.

Inclusion of added sugars on the NIP is currently under consideration in the Forum on Food Regulation. We encourage parallel adoption of both measures to improve transparency, but also note that (like FVNL) inclusion of added sugars in the HSR algorithm is not reliant on its inclusion in the NIP.

- **(b) Increase penalties for foods with high levels of a single risk nutrient**, *particularly sugar or salt*

    Attention to this issue has primarily been raised by consumers reasonably pointing out examples such as salty potato chips or sugary breakfast cereals that nevertheless appear to be scoring unreasonably high HSRs.

    We recognise that nutrient profiling is an attempt to score or rank individual foods objectively based on nutrient content, but also note that subjective decisions on weighting nutrients, and scaling or clipping scores in the underlying model necessarily impact the spread of final ratings.

    The HSR was developed from the earlier Nutrient Profile Scoring Criteria (NPSC) designed to determine eligibility to make health claims, with relative weightings given to nutrients for that purpose. Given the continued development of nutrition science (e.g. new WHO recommendations on sugar intake, and further evidence of the cost-effectiveness of reducing population salt intake) we recommend these weightings and scalings now be reviewed.

    While much current media focus is on sugar, we believe the algorithm review also creates an important opportunity to reduce Australia's salt intake. The recently updated WHO Global Action Plan on the Prevention and Control of Noncommunicable diseases Appendix III ('Best Buys for NCDs') includes stronger salt labelling (on the back and front of pack), and reformulation programs to reduce salt among its most cost-effective policy measures for Member States to promote healthier diets [18]. Increasing the sensitivity of the HSR algorithm to salt could provide an important driver of reformulation and more accurate signal to consumers of the health harms of high salt foods.

- **(c) Remove protein from the algorithm**

    This suggestion draws on the objectives of HSR outlined in policy documents, especially:

    > Enabling comparison between individual foods that, within the overall diet, may *contribute to risk factors of various diet-related chronic diseases;*

    > HSR should be based on elements that inform choice on balance by assessing both *health-benefit and health-risk associated food components;*

    We do not believe that inclusion of protein is necessary to meet these goals. Data from the Australian Health Survey suggests Australians already consume a sufficient (and increasing) amount of protein, creating little public health benefit from incentivising further uptake [25].

    The belief (whether real or perceived) that food manufacturers are 'gaming' the system by adding protein to all kinds of products (e.g. breakfast cereals) to attain a higher HSR warrants further review. Our initial examination of HSR/ADG 'outliers' also suggest a high number of protein and processed snack bars high in protein that could potentially score highly if choosing to display HSR.

    We also note that current separation of dairy products into specialised HSR categories creates opportunity to resolve this issue without delivering undue weight on protein across the food supply.

- **(d) Consider extending HSR to fresh and fast foods**

Although the initial focus of the system has been on packaged and processed items, we believe the HSR can maximise its utility if appropriately adapted for wider use. Although not necessarily requiring any change to the algorithm, these proposals would be useful for TAG to consider in its review.

(i) Fresh Foods

As noted above, Pollinate campaign evaluations suggest at least some consumers mistakenly believe that HSR means they should *more* packaged foods. This is contrary to HSR's alignment with the ADGs, particularly the recommendation that Australians increase their suboptimal consumption of (usually unpackaged) fruit and vegetables.

The HSR is already being applied by some retailers to both packaged fresh and frozen fruit and vegetables.

We understand that fresh produce *was* considered in development of the original algorithm, which was designed to ensure they scored appropriately. We believe HSR could be usefully extended to these products (vegetables, for example all score HSR ≥4.5), or a policy decision made to grant 5 stars to all products given their importance in the Australian diet, similar to that made for water.

This extension would be consistent with HSR objectives, including guiding consumer choice towards healthier options by both enabling comparison between foods and raising awareness of foods that, within the context of the overall diet, may contribute positively or negatively to the risk factors for chronic disease; and improving alignment with the ADGs.

There is international precedent for inclusion of fresh fruit and vegetables in other jurisdictions, such as the Nordic Keyhole, Singapore Healthier Choice Symbol and the International Choices interpretive nutrition labelling system. In the US, the Institute of Medicine reports specifically recommended that any system developed there be standardized across all fresh and packaged goods in a supermarket [26].

In the absence of an active campaign encouraging fruit and vegetable intake, social marketing of the initiative presents an opportunity to draw attention to increasing fruit and vegetable intake without significant additional government expenditure. It also presents government with an opportunity to allay consumer concern that the HSR is currently being 'gamed' by manufacturers of highly-processed, packaged foods. Our initial discussions with AUSVEG suggest fruit and vegetable growers who have thus far not been engaged with the HSR system could be engaged as supporters and potential allies.

We do not believe extension is likely to cause any adverse effects, and could be implemented practically (e.g. central signage in fresh produce area, or on shelf talkers), with due attention given to the definition of fruit and vegetables and the degree of processing permitted.

(ii) Fast Foods

Kilojoule labelling now appears on fast food menu boards in most Australian states. Legislation in New South Wales, for example, specifically allows for this to be extended, including addition of further nutrients or interpretive components [27]. The 2011 Labelling Logic Report also recommended adoption of a single interpretive labelling scheme on both front-of-pack and fast food menu boards [28]. Benefits to consumer awareness and use are obvious under a consistent system.

The George Institute recently published a comparison of the performance of HSR when used for restaurant fast foods and packaged foods [29]. We examined 1529 fast foods and 3810 products available in both settings (e.g. sandwiches, cakes) and found that HSR had similar distributions across categories. Our findings support extending HSR to Australia fast foods.

- **(e) Simplify the HSR algorithm**

As noted in Pollinate's research, there remains significant confusion among consumers about whether HSR applies within or across categories [10]. This confusion is understandable, given the intuitive appeal of a system that operates to allow reasonable comparisons across all products in a supermarket. Confusion is not only likely among consumers, but also manufacturers using HSR Guidance materials – the published log of clarifications about which foods fall within/outside certain dairy categories suggests this is the case [30].

While modelling is needed to recalibrate and re-scale, we believe further attempts are necessary to investigate the potential of a single HSR system that works for all products.

We also suggest striving towards a system which includes the minimum number of nutrients needed to differentiate between healthy and less healthy products. Ideally all of these nutrients should be included in the NIP to promote transparency.

(f) Capping products

If changes to the algorithm cannot achieve results sufficiently aligned with the ADGs, we support consideration of further policy decisions being applied where these are necessary for HSR to achieve its primary public health objectives.

These decisions could include a cap on the maximum score achievable by some discretionary foods e.g. confectionery.

7. Is the HSR Calculator easy for industry to use? If not, why not?

High levels of compliance of HSR labels with industry guidance materials are promising in this regard [23], though we note those who find the calculator difficult may have elected simply not to display HSR.

As identified in reports from stakeholder workshops, inclusion of nutrients additional to those required to on the NIP is one barrier to use, particularly among small and medium enterprises (SMEs). Simplification of the nutrients used in the algorithm, or extension of NIP requirements would improve transparency in this regard. We are also aware of examples of mis-categorisation among the six HSR categories when using the calculator. Whether intentional or not, these can have a significant impact on overall results, suggesting immediate need for further clarification in guidance materials and longer term consideration of strengthening the algorithm to apply across all foods.

8. Are there process and guidance documents for the HSR system (HSR system Style Guide, Guide for Industry to the HSR Calculator, artwork file, anomaly process and dispute process) adequate and do they provide clear guidance?

We appreciate the ongoing efforts of HSRAC to update these materials in response to stakeholder feedback, and make the following suggestions for strengthening the processes and documents further:

- The two year review notes that of 17 anomaly applications, only one has been accepted as fitting the anomaly criteria and received a favourable resolution. While this result may be defensible on technical grounds, this narrow definition has also allowed glaring weaknesses in the system (i.e. the 'as prepared' issue) to remain unresolved for the first three years. We have been present at industry-led events where facilitators have commented that the published log of anomaly decisions provided a shopping list of 'loophole opportunities' effectively endorsed by the HSRAC. The example given was one of categorizing your yoghurt as a dairy dessert to score extra stars.
- At the same time, the dispute resolution process remains entirely unused. Our attempts to gain further information about this process have been hampered by a number of apparently broken links on the HSR website.
- We encourage both the anomalies and dispute resolution process be reviewed, and more scope given for public health stakeholders and consumers as the primary beneficiaries of the system to

raise a wider range of reasonable concerns. Outcomes of issues considered could be disseminated in a media-friendly manner as a public education tool to improve awareness and understanding.

Our concerns about the lack of clarity of Guide for Industry in relation to 'as prepared' have been previously submitted for government review. Not only may lack of clarity be causing confusion among industry and consumers, it may also be inconsistent with provisions of Australian Consumer Law. We encourage it to not only be addressed, but resolved urgently.

HSR Graphic and Informative Elements

9. Do you think the informative elements provide additional useful information to consumers? If not, why not? Please provide evidence to support your response.

Due to time constraints and because this has not been a primary focus of our research, TGI elects not to provide a detailed response to this question.

We do note that it is confusing for consumers to see both HSR and the DIG on one label. Given HSR has now been in operation for over 3 years, there is no need for the DIG to be used on packaging.

10. Is the HSR graphic easy to understand for all consumers, including people from a non-English speaking background and those with low levels of literacy? If not, why not?

As noted above in question 2, a number of papers by Talati and Pettigrew et al suggest that the HSR graphic is easy to understand for a wide range of consumers [2-7]. These findings are consistent with the results of our randomized controlled trial, which found consumers preferred HSR to alternate label formats (NIP, MTL, DIG) across all education levels [8].

The WHO has recently updated its list of recommended evidence-based policies to prevent and control NCDs, and to prevent childhood obesity [18, 19]. Both documents reinforce the role of interpretive FoPL schemes such as HSR as important policies to increase nutrition literacy, including for children and those with lower literacy levels overall.

The HSR graphic is most easily understood when it relates clearly to the contents of the package. This is particularly so for those from a non-English background and those with low literacy. The current state of 'as prepared' rules present a particular risk to this group as they require consumers to follow more detailed directions elsewhere on pack.

11. Is the HSR graphic easy for food manufacturers to implement on packaging? If not, why not?

Where packaging and labelling costs are identified as a barrier to implementation, manufacturers should be encouraged to combine mandatory Country of Origin Labelling changes (required by June 2018) with uptake of HSR to improve the business case for a label change.

Communication

12. How effectively are the key messages of the HSR system communicated to different stakeholders (consumers, industry, government and public health groups)? Please clearly outline whether your response relates to the Australian or New Zealand campaign.

Our response to this question relates primarily to our experience as a public health stakeholder in Australia.

- **Consumers:** As already extensively outlined in Question 2, results from Pollinate research and in the Government's two year review suggest that while growing, consumer awareness is still unacceptably low. We applaud attempts to strengthen the campaign to clarify messages (e.g.

buy fresh foods first, then use HSR or packaged foods), but note confusion appears to remain around key HSR messages (e.g. use within or across categories, buy more packaged foods). The fact that only one in four Australians have seen the campaign suggests opportunities for its scale-up, as well as the need to build awareness through other means.

- **Public health stakeholders:** As noted in Question 3, we believe that stakeholder engagement to date has missed a potential opportunity to turn public health stakeholders into natural 'champions' of the system. In contrast to New Zealand, few stakeholder workshops have been targeted to this group, and public health 'experts' continue to appear in negative media about the system. Further constructive engagement with this group and responsiveness to their genuine concerns has potential to create a broader base of spokespeople with the credibility, skills and expertise required to promote uptake, use and trust among the public.

- **Industry:** We are encouraged by industry engagement with the scheme to date, particularly by the commitments made by Coles and Woolworths to display HSR on their entire product range. We call on government to continue to consult appropriately with industry in improving the scheme, while recognising and mitigating the risks of engaging with those whose commercial interests may conflict with HSR's primary public health objectives.

- **Government** – like public health stakeholders, we believe government at all levels have considerable potential to act as champions of the system and in disseminating key messages to other stakeholders. It is unclear what work has been undertaken to date to ensure this is the case.

13. **Are the government communication resources and materials for the HSR system useful and meaningful i.e. campaign material, stakeholder kit, website, fact sheets etc.? Please note whether these resources are part of the marketing campaign in Australia, New Zealand or both.**

Of the materials listed, we are regular users of the HSR website, receive the Health Stars Newsletter and follow the @healthstarsau twitter account.

We find the website generally useful, though make suggestions on inclusion of more innovative and informative content below in Question 14.

We feel that social media engagement of @healthstarsau could be greatly improved, both in the quality of designs and infographics used (compared to the recent campaign for Country of Origin Labelling, for example), and in the messaging promoted. Use of Twitter appears limited to dissemination of basic public campaign messaging, but this platform would be an ideal opportunity to engage more actively with public health stakeholders who use this media to share policy insights and updates.

Monitoring and governance

14. **Do you think there are additional opportunities to monitor the HSR system? If so, please provide examples of what the opportunities are, and how additional monitoring may be conducted.**

Given the potential public health benefit of widespread positive reformulation, we recommend further systematic monitoring and evaluation across the Australian food supply over time. This work would also be of high relevance to the reformulation stream of the Healthy Food Partnership.

Thought should also be given to the use of innovative transparency and accountability mechanisms that could be implemented immediately to promote consumer use and industry uptake.

The HSR website could, for example, include a publicly searchable database of foods by category, displaying products ranked by HSR in order to highlight healthier options. This would provide a public resource for consumers, as well as a way for manufacturers to benchmark their products in the market. The George Institute already performs a similar function through its FoodSwitch app, promoting

transparency of HSR when consumers scan a product barcode, even where a product is not yet displaying a HSR. These results could be made available to the government if desired.

The George Institute has also recently contributed to work in India led by the Access to Nutrition Foundation to rank the performance of the largest food manufacturers in India based on the healthiness of their product portfolios [31]. This work used both the HSR and the WHO Euro Nutrient Profile Model to assess the healthiness of foods by company and category. Australian results would be likely to generate large media, industry and consumer interest and could encourage competition to improve formulation and product mix.

15. Do you consider the operational structure of the HSR system, including the effectiveness of HSRAC and the New Zealand HSR Advisory Group and their associated working/sub groups appropriate?

HSR is publicly billed as *'a joint Australian, state and territory governments initiative, in partnership with industry, public health and consumer groups'*. Notwithstanding multi-stakeholder involvement, government leadership of the initiative has been identified as essential to the system's credibility and success by public health, consumer and industry stakeholder groups [1].

We note that current committees generally contain a three way balance of government, industry and 'public health and consumer' stakeholders, where these two later groups have been bundled to together account for one third of members. In the case of HSRAC this means three government representatives, two public health and one consumer representatives, three industry representatives and one representative from New Zealand. Inequality in raw numbers of representatives is likely to be further exacerbated by the differential power and influence of these groups (c.f. industry stakeholders).

Given the system's primary objectives are to improve public health and consumer information (not to simply act as an additional marketing tool for industry) we recommend serious consideration be given to expanding representation from these groups.

Greater consideration could be given to HSRAC and working group involvement with governance structures in parallel initiatives to improve coordination and impact (e.g. Healthy Food Partnership, ADGs).

We are grateful for the opportunity to be involved in the Technical Advisory Group. Our experience to date highlights the positive commitment within government to draw upon stakeholder feedback and relevant expertise to strengthen the system. It also underscores the critical need to ensure that technical modelling and any outcomes proposed are widely understood, verified and agreed by multiple experts, particularly those within government and/or free of competing commercial interests.

16. What options may be appropriate for the future governance and administrative arrangements for the HSR system?

(a) Increase public health and consumer representation

As noted already at Question 8 and 15, we believe it reasonable to give additional consideration to greater proportional representation of both consumer and public health stakeholder groups in HSR's governance and administrative arrangements.

(b) Retain and strengthen government leadership

To ensure the system's sustainability and success, it is critical HSR retains and visibly strengthens its government leadership. This has been identified as important by all stakeholders, but is particularly required to retain consumer trust. Government leadership has been reinforced publicly in some other jurisdictions (e.g. Chile and Singapore) by inclusion of 'Ministry of Health' endorsement within the front-of-pack label design.

(c) Make the system mandatory

As noted throughout our submission, our other main recommendation is that the system be made mandatory. This would radically improve uptake, increase consumer awareness and utility, and provide additional incentive for positive reformulation.

From a practical perspective, the change could be implemented in the Food Standards Code in a similar manner to provisions on health and nutrition claims. The constitutionality of a mandatory front-of-pack labelling requirement has been detailed extensively elsewhere[32]. At a global level, recent evidence reviews and updated policy documents from WHO recommend *mandatory* interpretive FoPL schemes [18, 19]. While accepting that existing trade obligations present potential barriers, recent introduction of new mandatory Country of Origin labelling suggest a similar requirement could be accepted in this case. The outcome of recent citizen's juries suggest a mandatory requirement would be well accepted by the public [33].

While work is underway to develop relevant legislation, we call on Government to make an immediate public announcement that if HSR is not only 80% [or other higher agreed proportion] of products by July 2018, the scheme will automatically become mandatory on the date of its five year anniversary one year later.

This kind of credible 'threat' has been shown to increase adherence to voluntary initiatives (e.g. voluntary salt reduction programs in the UK)[24]. Both the announcement and the subsequent response from industry would likely improve consumer awareness and use, and would still wholly comply with prior agreement not to change certain HSR features prior to July 2019.

Public health intervention

17. To what extent do you agree that the HSR is, or has the potential to be, a successful public health intervention? If not, why not?

As made clear throughout this submission, The George Institute has been a supporter of HSR since its inception on the basis of its potential contribution to a comprehensive approach to improving Australian diets.

Early analysis of HSR's performance demonstrate this potential, and also key reveal areas where the system must be strengthened to retain the primacy of its public health goals.

Our work in countries including India and Fiji suggest increasing global interest in HSR. Government leadership to address real and perceived weaknesses in the scheme will ensure Australia remains a global leader in this space.

The public health impact of labelling requirements is best when they initiate a food systems response, delivering improvements across the food supply, not only to those who use labels [22]. In the case of HSR, making the system mandatory and increasing the sensitivity of the algorithm to risk nutrients (particularly by including added sugar) are the factors we believe are most likely to initiate this response.

While industry may be necessarily involved in implementation, we also issue a broad call to government to ensure they do not exercise undue influence in determining HSR's terms and operation, given the potential for their commercial interests to inherently conflict with the public health objectives of the scheme.

In addition to our specific recommendations for improving HSR above, the system's utility could be increased by furthering uptake and effective implementation of complementary policies. Adoption of

a revised National Nutrition Policy would present an ideal opportunity to highlight roles and synergies of existing initiatives (including HSR, the ADGs and the Healthy Food Partnership) as well as providing a useful framework for future work (e.g. on fiscal policies, restricting marketing to children).

18. Does the HSR graphic help consumers choose healthier foods? If not, why not?

We have addressed this issue under similar headings above (Question 2 and Question 6 particularly).

In summary, key ways in which the HSR graphic could be more helpful include:

- Consideration of its extension to fresh and/or fast foods to provide a single, consistent comparator of the relative healthiness of foods.

- Improvement of alignment between the HSR algorithm with the ADGs and other authoritative sources of dietary advice, while recognising that perfect alignment may not be desirable, nor attainable.

- Making HSR mandatory, such that the graphic appears on all products to facilitate comparison.

- Strengthening the design of the HSR graphic, for example to include further evaluative components (e.g. colours for high or low nutrient content if these are included alongside the logo, or a requirement that the entire logo appear in red, for example, on foods achieving below a certain score as a de facto warning condition). Government may also consider inclusion of an official government endorsement in the label design similar to that done in Chile and Singapore.

19. Do you think the HSR will encourage positive reformulation of foods by industry? Please provide evidence supporting your response.

As noted in Question 2 above, the potential of FoPL to incentivise positive reformulation is recognised in the 2009 Front of Pack Labelling Policy Statement [21].

We believe reformulation should receive renewed focus as a core objective of HSR.

Evidence from compulsory trans-fat disclosure and high-salt warning labels in other jurisdictions illustrates the significant public health impact achievable where a food labelling requirement stimulates a positive food systems response [22]. Improvements to the food supply are likely to deliver benefits equitably by removing reliance on consistent and correct consumer use. This is significant in its potential to deliver benefits to those least likely to read labels, who are also most likely to be at highest risk of diet-related disease.

There are already promising signs that HSR is stimulating some reformulation. The two year Australian review contains anecdotal evidence of favourable reformulation [1]. Data from New Zealand, (while on a small product sample), suggests favourable changes in energy, sodium and fibre contents compared with product composition prior to adoption of HSR. Reformulation of HSR labelled products occurred at a higher rate than that of non-HSR labelled products over the same time period [23].

Evidence from national salt reduction schemes elsewhere suggest even small changes can deliver benefits across population [24]. The HSRAC could further engage the Healthy Food Partnership reformulation work group to leverage ongoing activities of both initiatives to increase the public health impact of this work.

The following are likely to increase the incentive for *positive* reformulation:
- Making the system mandatory
- Inclusion of added sugar in the algorithm
- Increasing the sensitivity of the algorithm to risk nutrients such as salt, saturated fat, added or total sugars
- Ensuring only nutrients and substances with genuine public health benefits qualify for inclusion (i.e. review of the definition of fibre and inclusion of protein for purpose of gaining points)

Conclusion

In summary, our key recommendations are:

- The system **should be made mandatory,** with work commencing now to allow legislative implementation by HSR's 5 year anniversary

- As an immediate measure to promote uptake, government should **issue an announcement that the system will automatically be made mandatory** at the date of its 5 year anniversary if a given threshold (we suggest a minimum of 80%) of all products are not displaying a HSR by July 2018

- Renew **focus on positive reformulation as a core objective** of the system and monitor this systematically in both Australia and New Zealand

- Seek further **improvements to alignment of HSR with the ADGs *and* other authoritative sources of dietary advice**

- **Review the algorithm**, with consideration given especially to:

    o Including added/free sugars
    o Removing protein
    o Extending HSR to fresh and fast foods
    o Increasing HSR's ability to work not only *within* but *across* categories

- Redress **current imbalances in HSR governance**, increasing formal representation and opportunity for input from public health and consumer stakeholders

- **Fix the 'as prepared' issue as a matter of priority**

- Retain and **strengthen visible government leadership**

- **Improve consumer awareness**, by both increasing uptake and scaling up the education campaign

- **Adopt a National Nutrition Policy** as a framework to enhance the implementation and synergies between HSR and other existing and future policies to address diet-related disease

We appreciate the opportunity to contribute to this review and the strengthening of the HSR system. We encourage adoption of these recommendations to increase HSR's public health impact, and retain its role as one component of a comprehensive approach to improving Australian diets.

Please do not hesitate to contact us should you require further information.

Appendix A: George Institute Publications

Relevant publications involving George Institute authors (bolded). Most recent first:

Peters, SE., Dunford, E., Jones, A., Ni Mhurchu, **C., Crino, M., Taylor, F., Woodward, F., and Neal, B. (2017)** *Incorporating Added Sugar Improves the Performance of the Health Star Rating Front-of-Pack Labelling System in Australia.* Nutrients 9, no. 7: 701.

Dunford, E., Wu, J., Wellard, L., Watson, **W., Crino, M., Petersen, K., and Neal, B.** (2017) *A comparison of the Health Star Rating system when used for restaurant fast foods and packaged foods.* Appetite.

Neal, B., Crino, M., Dunford, E., Gao, A., Greenland, R., Li, N., Millis, A., Ni Mhurchu, C., Pettigrew, S., Sacks, G**., Webster, J., Wu, J.** (2017) *Effects of Different Front-of-Pack Food Labelling Formats on the Healthiness of Food Purchases - a Randomized Trial.* Abstract presented at American College of Cardiology 66th Annual Scientific Session. Washington, D.C.

Talati, Z., Pettigrew, S., **Neal, B**., Dixon, H., Hughes, C., Kelly, B., & Miller, C. (2017). *Consumers' responses to health claims in the context of other on-pack nutrition information: a systematic review.* Nutrition Reviews, 75(4), 260-273.

Talati, Z., Pettigrew, S., Ball, K., Hughes, C., Kelly, B., **Neal, B.,** & Dixon, H. (2017). *The relative ability of different front-of-pack labels to assist consumers discriminate between healthy, moderately healthy, and unhealthy foods.* Food Quality and Preference, 59, 109-113.

Jones, A., Dunford, E., Crossley, R**., Raj, TS**., Rayner, M., **Neal, B**. (2016) *The Healthiness of Packaged Foods and Beverages in India,* Report for Access to Nutrition Foundation, available at https://www.accesstonutrition.org/sites/in16.atnindex.org/files/resources/india_product_profile_chapter.pdf

Carrad, AM., Louie, JCY., Yeatman**, H., Dunford, EK., Neal**, BC and Flood, VM (2016) *A nutrient profiling assessment of packaged foods using two star-based front-of-pack labels.* Public Health Nutrition 19, no. 12: 2165-2174.

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Volkova, E., **Neal, B.,** Rayner, M., Swinburn, B., Eyles, H., Jiang, Y., Michie, J., and Ni Mhurchu, C. (2014) *Effects of interpretive front-of-pack nutrition labels on food purchases: Starlight randomised controlled trial* Obesity Research and Clinical Practice 8: 110-111

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